

E1
comp

a second thin film transistor having a second active layer comprising silicon formed over said substrate wherein said second active layer is not intentionally doped with germanium, wherein the first active layer and the second active layer are formed on a same insulating surface over the substrate.

2. (Twice Amended) A semiconductor device comprising:

a substrate;

a first thin film transistor having a first active layer comprising $\text{Si}_{1-x}\text{Ge}_x$ where $0 < x < 1$ formed over said substrate; and

E2

a second thin film transistor having a second active layer comprising silicon formed over said substrate, wherein said second active layer contains no germanium, wherein the first active layer and the second active layer are formed on a same insulating surface over the substrate, and wherein said first thin film transistor constitutes a CMOS circuit.

E3

30. (Twice Amended) A semiconductor device having an active matrix type display device, said display device comprising:

a substrate having an insulating surface;

a plurality of pixel electrodes arranged in a matrix formed over said substrate;

a plurality of first thin film transistors for switching said pixel electrodes and formed over said substrate;

a driver circuit formed over said substrate for driving said plurality of first thin film transistors, said driver circuit comprising at least one second thin film transistor;

E3 and

each of said first thin film transistors and said second thin film transistor comprising:
semiconductor film comprising silicon and including at least one channel region;
a gate insulating film adjacent to said channel region; and
a gate electrode adjacent to said gate insulating film,
wherein the semiconductor film of each of said first thin film transistors and said
second thin film transistor are formed on the substrate having the insulating surface, and
wherein the semiconductor film of said second thin film transistor contains
germanium at a higher concentration than the semiconductor film of said first thin film transistors
and the semiconductor film of the first thin film transistors is not intentionally added with
germanium.

E4

33. (Third Amendment) A semiconductor device comprising:
a substrate having an insulating surface;
a first thin film transistor formed over said substrate, said first thin film transistor
comprising:
a first semiconductor film comprising crystalline silicon formed over said substrate
and having a channel region;
a first gate insulating film adjacent to said first semiconductor film; and
a first gate electrode adjacent to said first gate insulating film;
a second thin film transistor formed over said substrate, said second thin film
transistor comprising:
a second semiconductor film comprising crystalline silicon formed over said substrate
and having a channel region;

E4
comp

a second gate insulating film adjacent to said second semiconductor film; and
a second gate electrode adjacent to said second gate insulating film,
wherein the first semiconductor film and the second semiconductor film are formed
on the substrate having the insulating surface, and
wherein said first semiconductor film contains germanium at a higher concentration
than said second semiconductor film and the second semiconductor film is not intentionally added
with germanium.

36. (Twice Amended) A semiconductor device comprising:
a substrate having an insulating surface;
a first thin film transistor formed over said substrate, said first thin film transistor
comprising:
a first semiconductor film comprising crystalline silicon formed over said substrate
and having a channel region;
a first gate insulating film adjacent to said first semiconductor film; and
a first gate electrode adjacent to said first gate insulating film;
a second thin film transistor formed over said substrate, said second thin film
transistor comprising:
a second semiconductor film comprising amorphous silicon formed over said
substrate and having a channel region;
a second gate insulating film adjacent to said second semiconductor film; and
a second gate electrode adjacent to said second gate insulating film,
wherein the first semiconductor film and the second semiconductor film are formed

E6

on the substrate having the insulating surface, and

E5
wherein said first semiconductor film contains germanium at a higher concentration than said second semiconductor film and the second semiconductor film is not intentionally added with germanium.

E5
Cancel Claims 43 and 48.

49. (Amended) A semiconductor device comprising:

a substrate;

a underlying layer formed over the substrate;

E4
a first thin film transistor having a first active layer comprising $\text{Si}_{1-x}\text{Ge}_x$ where $0 < X < 1$ formed over said underlying layer; and

a second thin film transistor having a second active layer comprising silicon formed over said underlying layer wherein said second active layer is not intentionally doped with germanium,

wherein the first active layer and the second active layer are formed on a same insulating surface over the substrate.

Please add the following new claims:

51. (New) A semiconductor device comprising:

a substrate;

E7
a first thin film transistor having a first active layer comprising $\text{Si}_{1-x}\text{Ge}_x$ where $0 < X < 1$ formed over said substrate; and

a second thin film transistor having a second active layer comprising silicon formed over said substrate wherein said second active layer is not intentionally doped with germanium,

wherein the first active layer and the second active layer are formed on a same insulating surface over the substrate,

wherein the first active layer and the second active layer include a metal capable of promoting crystallization of silicon, and

wherein said $\text{Si}_{1-x}\text{Ge}_x$ is polycrystalline silicon germanium and said silicon is polycrystalline silicon.

52. (New) A semiconductor device comprising:

a substrate having an insulating surface;

E7 a first thin film transistor formed over said substrate, said first thin film transistor comprising:

a first semiconductor film comprising crystalline silicon formed over said substrate and having a channel region;

a first gate insulating film adjacent to said first semiconductor film; and

a first gate electrode adjacent to said first gate insulating film;

a second thin film transistor formed over said substrate, said second thin film transistor comprising:

a second semiconductor film comprising crystalline silicon formed over said substrate and having a channel region;

a second gate insulating film adjacent to said second semiconductor film; and

a second gate electrode adjacent to said second gate insulating film,

wherein the first semiconductor film and the second semiconductor film are formed on the substrate having the insulating surface, and

wherein the first semiconductor film and the second semiconductor film include a metal capable of promoting crystallization of silicon,

wherein said $\text{Si}_{1-x}\text{Ge}_x$ is polycrystalline silicon germanium and said silicon is polycrystalline silicon, and

wherein said first semiconductor film contains germanium at a higher concentration than said second semiconductor film and the second semiconductor film is not intentionally added with germanium.

E7 cond
53. (New) A semiconductor device according to claim 51 wherein said semiconductor device is selected from the group consisting of a handy phone, a video camera, a mobile computer, a head-mount display, a rear-type projector and a front-type projector.

54. (New) A semiconductor device according to claim 52 wherein said semiconductor device is selected from the group consisting of a handy phone, a video camera, a mobile computer, a head-mount display, a rear-type projector and a front-type projector.

55. (New) The semiconductor device according to claim 51 wherein the metal is selected from the group consisting of nickel, iron, cobalt, and platinum.

56. (New) The semiconductor device according to claim 52 wherein the metal is selected from the group consisting of nickel, iron, cobalt, and platinum.